

# The risk and the adjustment: Managing ACA marketplace selection risk if cost-sharing reductions fall short

Jeffrey G. Milton-Hall, FSA, MAAA

Doug Norris, FSA, MAAA

Jason Karcher, FSA, MAAA



## CSR funding, issuer rating, and risk adjustment

On August 15, 2017, the Congressional Budget Office (CBO) released a report<sup>1</sup> on the potential effects of terminating payment for cost-sharing reduction (CSR) subsidies in individual Patient Protection and Affordable Care Act (ACA) health insurance marketplaces. The CBO report projected a \$194 billion impact on the federal deficit and premium increases for silver tier plans of 20% to 25%. If cost-sharing reduction subsidies were to be eliminated, it could expose insurance carriers to a substantial increase in selection risk related to their particular mix of business.

The ACA's risk adjustment program was developed with the goal of limiting a carrier's selection risk by compensating carriers for the difference between the full estimated risk of covering an individual and the portion of this risk the ACA allows carriers to reflect in premiums. The elimination of the ACA's CSR subsidy funding in individual health insurance markets would disrupt the existing alignment between the current risk adjustment program and the risks that insurance carriers face, exposing carriers to significantly more risk and volatility with respect to business mix than they face under current policy. However, all is not lost—risk adjustment can be modified to better reflect the new risks introduced by the potential of CSR non-funding and any associated carrier rating strategies.

On August 10, 2017, the Centers for Medicare and Medicaid Services (CMS) announced its intention to propose one such set of modifications for states in which insurance carriers raise silver premiums in response to potential CSR subsidy termination.<sup>2</sup> In this paper, we explore the CMS proposal along with the current ACA risk adjustment program and three other potential alternative modifications to risk adjustment in response to the elimination of CSR funding. We then place each model into a simulation of a hypothetical ACA insurance market to understand the implications of each potential approach on optimal pricing strategies and the selection risk that carriers face. We found the following three key takeaways:

1. There are several distinct ways that risk adjustment can handle a risk such as CSR non-funding, and the approach chosen has major implications for the optimal pricing

strategy for carriers and the level of selection risk they face. In particular, while the CMS proposal may reduce carriers' selection risk compared to the absence of any modification, other modifications have the potential to reduce residual selection risk even further when paired with an appropriate rating strategy.

2. In addition to changes directly related to the funding of CSR subsidies, the risk adjustment modification proposed by CMS includes a subtle, unrelated, but significant change to how risk is transferred for CSR variation plans. If put into effect, this additional change would favor carriers that only offer plans off-marketplace at the expense of those offering a higher-than-average proportion of policies in the form of CSR variation plans.
3. Of all risk adjustment approaches to address CSR non-funding that we considered, the CMS modification is aligned with the greatest level of short-term premium volatility and the largest level of external funding, in the form of Advanced Premium Tax Credits (APTCs).<sup>3</sup> The structure of the CMS proposal concentrates the risks of unfunded CSR variation plans in these plans alone, and therefore supports large rate increases for silver plans offered on ACA marketplaces and premium decreases for all other plans. Related to this, it is important to note that by supporting lower rates for non-silver plans and higher APTCs for marketplace silver plans, CMS's chosen method may support the lowest overall premium responsibility for consumers, provided that carriers do not react by adding substantial risk margin to offset residual selection risk.

We note that Milliman does not advocate any one of these risk adjustment methods over the others. Although one method may be associated with larger changes to market premium rates than another, this does not mean that it is any less or more fair than the others. In every case that we studied, the main cause of premium disruption is the cessation of the CSR payments by the federal government.

Furthermore, there may be substantial signaling benefits to markets arising from the CMS announcement beyond the particulars of the methodology itself. A key conclusion from our analysis is that pricing strategy and risk adjustment methodology necessarily go hand in hand. The overall uncertainty of CSR

payments has caused considerable carrier consternation, and the simple fact of introducing clear guidance can be quite helpful. By signaling a specific approach to risk adjustment (particularly one that is consistent with many states' guidance to limit CSR-related increases to silver plans), the CMS proposal brings some much needed clarity to affected marketplaces and may reduce the potential for strategy-related selection between carriers following different pricing approaches.

The conclusions in this paper are consistent with regulatory and legislative guidance at the time of its publication; however, these guideposts are always evolving, and health carriers should consult with their own actuarial and legal teams prior to implementing any conclusions that they derive from this paper.

It is also important to note that our simulation is necessarily a simplified version of an ACA marketplace, and although we expect most of its conclusions to reflect directional reality in actual marketplaces, the magnitudes thereof will vary. The impact of these changes to a specific carrier is highly dependent on the carrier's distribution of CSR and metallic tier plans as well as on the resulting mix for the entire state in which the carrier operates along with its competitors' approaches to rating for these CSR changes. When possible, actual and anticipated carrier and state data are best for determining estimates of the impact of these changes.

Milliman is continuing to monitor this emerging situation and will publish additional research and analysis, potentially involving other approaches such as analysis of actual qualified health plan (QHP) risk adjustment data as the situation warrants.

## Where are we now?

Uncertainty regarding the potential elimination of CSR subsidy funding and the responses of both regulators and carriers has the potential to significantly increase the level of volatility and risk in the individual market.<sup>4</sup> For the 2017 benefit year, QHP carriers developed premiums under the assumption that CSR subsidies would remain funded. For the 2018 benefit year, QHP carriers have less than a month left before premium rates must be set.

Recent months have seen continued ambiguity surrounding the administration's plans regarding payment of these subsidies, and many states have requested that carriers submit premiums that do not incorporate federal funding of CSRs. Without federal funding, the additional cost-sharing obligation would fall upon the carrier, effectively increasing the overall amount of paid claims for plans with assumed CSR enrollment. Some states have requested that the additional costs be spread across the whole block, mirroring current treatment of the induced demand component. Other states have requested that all additional costs be reflected in silver premiums.

The potential elimination of CSR funding introduces a new risk that we refer to as CSR Actuarial Value (AV) risk<sup>5</sup>: carriers would be liable for the amount of the difference in cost sharing between the richer benefit design the member sees and the leaner base plan design upon which the premium rates are determined. We can further break down CSR AV risk into two distinct subtypes:

1. **Market-wide risk:** Insurance carriers are liable for the cost of the unfunded CSR subsidies, which increases the overall cost of coverage.
2. **Selection risk:** By increasing the cost of CSR coverage while prohibiting commensurate premium differentials for CSR plan variations, carriers are at risk of attracting a higher-than-expected proportion of CSR enrollees than priced for, without being able to charge an adequate premium for this new risk. Any carrier offering on the exchange is subject to this potential risk. Furthermore, by disrupting the alignment between actual risk (which includes CSR AV risk) and the risk transfer formula (which implicitly assumes CSR subsidies are externally funded), misaligned risk adjustment transfers may exacerbate the level of selection risk in the marketplace.

*Market-wide* risk would only be eliminated by either funding cost-sharing subsidies for CSR variations (whether through premium increases or external funding) or by eliminating CSR variations altogether (which would need an unlikely act of Congress). However, *selection* risk might be mitigated through one of several potential modifications to the existing risk transfer model.

## The CMS proposal to address CSR variation risk

On August 10, 2017, CMS informally proposed one such risk adjustment program change.<sup>6</sup> In short, because the average AV of silver 87% and 94% CSR variation plans is close to the permissible AV calculator range for platinum plans, the CMS transmittal proposes treating these CSR variations as platinum plans with respect to all aspects of risk adjustment (actual risk and allowable rate levels for both AV and induced demand). Notably, CMS proposes doing this only in states where all carriers increase silver premiums to reflect the full cost of CSR funding liabilities (CSR AV risk).

The structure of the ACA's risk adjustment formula and any variation thereof implicitly makes assumptions regarding the risks that insurance carriers face and whether and how carriers will rate for these risks. Furthermore, by transferring revenue between carriers within a market based on these implicit assumptions, ACA risk adjustment incentivizes carriers to vary premium rates consistently with these assumptions (see the sidebar "How the ACA risk adjustment formula models and transfers risk").

**HOW THE ACA RISK ADJUSTMENT FORMULA MODELS AND TRANSFERS RISK**

The ACA's risk adjustment formula is designed to compensate each insurance carrier for the level of risk it bears (relative to the entire market) compared with the portion of this risk it is allowed to rate for in its premiums (again, relative to the entire market). The ACA's risk adjustment calculation is designed to be revenue-neutral within each state and market,<sup>7</sup> with carriers enrolling healthier populations than the overall market transferring funds to carriers enrolling less-healthy populations. As a result, any carrier's increase in risk adjustment revenue is funded by the rest of the market as a whole (and not by an external source, such as in Medicare's risk adjustment program).

While the actual formula can be difficult to parse because of the interplay of many different factors, it can be summarized in a generalized form as follows:

$$\text{Carrier's RA Receipt / (Payment)} = \left( \frac{\text{Carrier's Actual Risk Level}}{\text{Market's Actual Risk Level}} - \frac{\text{Carrier's Allowable Rate Level}}{\text{Market's Allowable Rate Level}} \right) \times \left( \frac{\text{Market Average}}{\text{Premium}} \times \text{Loss Ratio} \right)$$

The formula measures and transfers risk by calculating the difference between two ratios:

1. The carrier's actual risk level (as modeled by risk score factors assigned to each enrollee) as a proportion of total market risk (the left side of the difference in the formula above)
2. The risks that the carrier is allowed to rate for as a proportion of total market's allowable risks (the right side of the difference in the formula above)

The decision regarding which risks to include in each half of the formula has significant implications for whether and how the risk is modeled and transferred by the risk adjustment formula as detailed in the table below:

Risk Adjustment Treatment Options	In Left Side of Formula? (Actual risk level)	In Right Side of Formula? (Allowable rate level)	Implicit Assumptions	Additional Comments	Example Risks (Current ACA Risk Adjustment)
Not Modeled / Not Transferred	No	No	Not a real risk or outside of the scope of the transfer formula.	To the extent these risks are real, risk transfers will be misaligned relative to the risks borne by carriers.	<ul style="list-style-type: none"> <li>Carrier-specific reimbursement levels (beyond that in geographic cost factors)</li> <li>Pent-up demand risk</li> </ul>
Modeled / Not Transferred	Yes	Yes	Carriers will rate for this risk in the premiums for affected plans.	To the extent that carriers are unable to vary premiums based on these risks, carriers will be exposed to selection risk.	<ul style="list-style-type: none"> <li>Allowable portion of demographic risk (via ARF)</li> <li>Induced demand other than that associated with CSR variations (via IDF)</li> </ul>
Modeled / Transferred within a subset of plans (e.g., Silver CSRs)	Yes	Yes (average risk across chosen subset)	Carriers will rate for the average risk across plans in the affected subset.	This approach can be used to share risk within a subset of plans (e.g., all silver plans, or silver CSR plans) in situations where carriers are unable or choose not to vary premiums within the subset (e.g., between 87% and 94% silver CSR).	None
Modeled / Transferred over all plans	Yes	No	Carriers will not or cannot vary premiums for differences in the level of this risk, but will instead incorporate a load for the average marketwide risk into premiums for all plans.	Risks in this category are spread across the entire risk pool, such that carriers must rate for the risk regardless of whether they would otherwise be exposed to it.	<ul style="list-style-type: none"> <li>Non-rateable portion of demographic risk (via PLRS)</li> <li>Difference between total and billable member months</li> <li>Additional induced demand associated with CSR variations (via 12% adjustment to PLRS)</li> <li>Health status morbidity risk (via PLRS)</li> </ul>

By treating higher-AV silver CSR variations as platinum plans, the CMS proposal models AV risk both on the left side of the risk transfer formula (via platinum risk score coefficients) and on the right side of the formula (via metallic level AV factors). Furthermore, beyond the changes to the treatment of CSR AV risk, the proposal also drives a subtle but significant change in the treatment of CSR-induced demand (ID) risk<sup>8</sup>: it pulls CSR ID risk out of risk scores (which only appear on the left side of the risk adjustment formula) and instead models this risk via the formula's Induced Demand Factor (IDF), which appears on both sides of the formula. When a risk adjustment model includes a risk in both the left (actual risk level) and right (allowable rate level) sides of the formula, it does not transfer the risk

throughout the entire market, but instead concentrates the risk among affected enrollees or plans, therefore incentivizing insurance carriers to vary plan premiums based on the level of risk. In other words, in states where carriers load the cost of CSR AV risk in the premiums for CSR plans, the CMS proposal also encourages carriers to do the same for CSR ID risk.

We built a simple (but not simplistic) model of a hypothetical ACA individual marketplace (see the sidebar “Playing with risk”) in order to simulate risk and risk transfers by enrollee subset within a marketplace, under various CSR funding status, pricing strategy, and risk adjustment scenarios, including the CMS proposal.

### PLAYING WITH RISK: INTRODUCING OUR HYPOTHETICAL MARKETPLACE SIMULATION

From physics to economics, carefully constructed models of complex phenomena can help users better understand and communicate specific aspects of complex systems while abstracting away extraneous considerations. In order to simulate the interaction between CSR risk and risk adjustment with ACA markets, we built a hypothetical individual marketplace consisting of 15 distinct and equally weighted enrollee subtypes, which vary only in terms of their health status and the types of plan purchased (ACA metallic level and CSR variation). For the purpose of this simulation, we modeled 40% of market enrollment in silver CSR variations (split evenly between 87% and 94%), and 60% in non-CSR plans, evenly split among bronze, silver, and gold.

Other than where explicitly noted, we made the following assumptions:

- The average marketplace premium is accurately priced to an 86% loss ratio (risk-adjusted claims over premium adjusted for qualified expenses), with no additional risk margin added to rates for any scenario. The choice of 86% is intended to align the simulated premiums with the 86% loss ratio applied to the market average premium in the 2018 risk transfer formula.
- Premiums vary appropriately by metallic level; however, premium variation by morbidity is prohibited. While the ACA prohibits premium variation between base plans and their CSR variations, we allow such variation for certain pricing strategy scenarios under the assumption that all non-CSR enrollment is via plans offered off-marketplace only at a different rate level.
- Claim costs by metallic level and CSR variation are proportional to variation in the metallic level actuarial value (AV) factors, induced demand (ID) factors, and CSR-specific AV and ID adjustments used by the HHS risk transfer formula with no additional random or nonrandom variation.
- Risk adjustment perfectly compensates for variations in claims. This is an important simplification, and we explain more about this limitation later in the paper.

To maintain the model's focus, we have intentionally ignored other sources of real-world variation, such as the following:

- Variation in unit cost and provider reimbursement by insurance carrier or geographic area
- Demographic differences among enrollees in the market (e.g., age, gender)
- Any other variation in claim costs not captured by risk adjustment or attributable to plan design
- Transfer of risk across state markets via the risk adjustment high-risk pooling mechanism

We are also considering plan loss ratios prior to any minimum medical loss ratio (MLR) requirements, which are currently 80% in the individual market (but can be higher at each state's discretion).

See the graph below for a demonstration of this simulation under ACA current policy:

Pricing Scenario: CSRs remain funded / Spread CSR ID Risk Uniformly (Current Policy)										
Simulated Risk Transfer Receivable/(Payment) and Net Loss Ratio, by Risk Adjustment Model										
Member Subtype		Simulated Claims and Premium			O			A		
					No Risk Adjustment			Current ACA Model (CSR AV not modeled, Transfer CSR ID)		
Metal/CRS	Morbidity	Net Claims PMPM	Premium PMPM	% Change from Current Policy	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)
Bronze	Average	\$339	\$414	0%	\$0	82%	Slightly Unfavorable	(\$16)	86%	Even
Bronze	Low	\$85	\$414	0%	\$0	21%	Extremely Unfavorable	(\$271)	86%	Even
Bronze	High	\$594	\$414	0%	\$0	144%	Extremely Favorable	\$238	86%	Even
Silver 70%	Average	\$408	\$497	0%	\$0	82%	Slightly Unfavorable	(\$19)	86%	Even
Silver 70%	Low	\$102	\$497	0%	\$0	21%	Extremely Unfavorable	(\$325)	86%	Even
Silver 70%	High	\$714	\$497	0%	\$0	144%	Extremely Favorable	\$286	86%	Even
Silver 87% CSR	Average	\$457	\$497	0%	\$0	92%	Moderately Favorable	\$29	86%	Even
Silver 87% CSR	Low	\$114	\$497	0%	\$0	23%	Extremely Unfavorable	(\$313)	86%	Even
Silver 87% CSR	High	\$800	\$497	0%	\$0	161%	Extremely Favorable	\$372	86%	Even
Silver 94% CSR	Average	\$457	\$497	0%	\$0	92%	Moderately Favorable	\$29	86%	Even
Silver 94% CSR	Low	\$114	\$497	0%	\$0	23%	Extremely Unfavorable	(\$313)	86%	Even
Silver 94% CSR	High	\$800	\$497	0%	\$0	161%	Extremely Favorable	\$372	86%	Even
Gold	Average	\$489	\$596	0%	\$0	82%	Slightly Unfavorable	(\$23)	86%	Even
Gold	Low	\$122	\$596	0%	\$0	21%	Extremely Unfavorable	(\$390)	86%	Even
Gold	High	\$855	\$596	0%	\$0	144%	Extremely Favorable	\$343	86%	Even
<b>Total Market</b>		<b>\$430</b>	<b>\$500</b>	<b>0%</b>	<b>\$1</b>	<b>86%</b>	<b>Even</b>	<b>\$0</b>	<b>86%</b>	<b>Even</b>

  

Standard Deviation of Simulated Loss Ratio (Measure of Selection Risk)	
A	A
53%	0%

As the “No risk adjustment” columns demonstrate, in the absence of any risk adjustment, insurance carriers subject to ACA rating rules (which prohibit premium variation based on health status) would face substantial selection risk according to the morbidity level of enrollees, and thus have a strong incentive to enroll low-morbidity individuals and avoid enrolling high-morbidity individuals. In contrast, the results in the “Current ACA models” columns demonstrate how (under the idealized assumptions of our simulation), risk adjustment spreads this risk across morbidity levels, leveling out the expected loss ratio and the favorability of different enrollee segments. In our hypothetical simulation, appropriately aligned risk adjustment effectively eliminates any incentive to favor a particular subset of the market. In a real marketplace, the risk adjustment process is not perfectly correlated with claim costs, and is therefore unlikely to spread out risk perfectly. However, even an imperfect risk adjustment program can mitigate selection risk and limit carriers’ incentives to target low-morbidity individuals.

See Figure 1 for a simulation of risk-adjusted results under both the current ACA risk adjustment model (Model A) and CMS’s proposal (Model B), under a scenario in which CSRs are not funded, carriers load the entire cost of the funding risk into silver CSR premiums alone,<sup>9</sup> but carriers continue to spread CSR ID risk evenly across premiums for all plans.

In our simulation, the overall claim and premium level in the market increases 12%, which is due to the increased CSR AV risk, with premiums increasing by 30% for silver CSR (87% and

94% variants) and 1% for all other plans.<sup>10</sup> Model A, the current ACA model, assumes CSR subsidies are funded and therefore does not model CSR AV risk, leading to a misalignment between actual risk and the risk transfer formula. The effect of this is visible as an increase in selection risk in the market, such that some member types become more or less favorable to enroll than is reflected in risk-adjusted premiums.

However, the CMS proposal also does not quite align properly with this pricing scenario as it implicitly assumes that carriers

**FIGURE 1: SIMULATION OF RISK-ADJUSTED RESULTS, MODELS A AND B**

Pricing Scenario: CSRs not funded, Load CSR Risk on CSR Silvers\* / Spread CSR ID Risk uniformly

					Simulated Risk Transfer Receivable/(Payment) and Net Loss Ratio, by Risk Adjustment Model					
Member Subtype		Simulated Claims and Premium			A Current ACA Model (CSR AV not modeled, Transfer CSR ID)			B CMS Proposal (Rate for CSR AV and ID)		
Metal/CSR	Morbidity	Net Claims PMPM	Premium PMPM	% Change from Current Policy	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)
Bronze	Average	\$339	\$417	+1%	(\$18)	86%	Even	\$0	81%	Slightly Favorable
Bronze	Low	\$85	\$417	+1%	(\$305)	93%	Moderately Unfavorable	(\$256)	82%	Slightly Favorable
Bronze	High	\$594	\$417	+1%	\$268	78%	Moderately Favorable	\$256	81%	Slightly Favorable
Silver 70%	Average	\$408	\$501	+1%	(\$22)	86%	Even	\$0	81%	Slightly Favorable
Silver 70%	Low	\$102	\$501	+1%	(\$366)	93%	Moderately Unfavorable	(\$307)	82%	Slightly Favorable
Silver 70%	High	\$714	\$501	+1%	\$322	78%	Moderately Favorable	\$307	81%	Slightly Favorable
Silver 87% CSR	Average	\$568	\$647	+30%	\$33	83%	Slightly Favorable	\$0	88%	Slightly Unfavorable
Silver 87% CSR	Low	\$142	\$647	+30%	(\$352)	76%	Moderately Favorable	(\$441)	90%	Slightly Unfavorable
Silver 87% CSR	High	\$994	\$647	+30%	\$418	89%	Slightly Unfavorable	\$441	85%	Slightly Favorable
Silver 94% CSR	Average	\$614	\$647	+30%	\$33	90%	Slightly Unfavorable	\$0	95%	Moderately Unfavorable
Silver 94% CSR	Low	\$153	\$647	+30%	(\$352)	78%	Moderately Favorable	(\$441)	92%	Moderately Unfavorable
Silver 94% CSR	High	\$1,074	\$647	+30%	\$418	101%	Very Unfavorable	\$441	98%	Moderately Unfavorable
Gold	Average	\$489	\$600	+1%	(\$26)	86%	Even	\$0	81%	Slightly Favorable
Gold	Low	\$122	\$600	+1%	(\$438)	93%	Moderately Unfavorable	(\$368)	82%	Slightly Favorable
Gold	High	\$855	\$600	+1%	\$386	78%	Moderately Favorable	\$368	81%	Slightly Favorable
<b>Total Market</b>		<b>\$484</b>	<b>\$562</b>	<b>+12%</b>	<b>\$0</b>	<b>86%</b>	<b>Even</b>	<b>\$0</b>	<b>86%</b>	<b>Even</b>

Standard Deviation of Simulated Loss Ratio (Measure of Selection Risk)

A	B
7%	5%

\* Note: While ACA rating rules do not permit carriers to charge different premiums for CSR versus non-CSR silver plans, carriers may be able to approximate such a differential pricing strategy by non-CSR silver plans at a lower rate off-marketplace, and applying the CSR load to all silver plans offered on-marketplace.

do not spread CSR ID risk across plans. To the extent that carriers do not adjust for this change and continue to load CSR ID risk into all plan premiums, they may find that premiums net of risk adjustment for CSR enrollees are insufficient and that those for non-CSR enrollees are excessive.

We are able to measure the simulated degree of selection risk for any pricing strategy and risk adjustment scenario by calculating the standard deviation of simulated loss ratios net of risk adjustment. Under the idealized assumptions of our simulation, a perfectly aligned risk adjustment program will reduce this selection risk to 0%, where a misalignment will be visible as a

higher deviation. The 5% deviation for the CMS proposal above is an indication of the risk that carriers would face under the proposed program if they did not change their pricing strategies with respect to CSR ID risk. Under this combination of pricing strategy and risk adjustment, our simulation projects risk-adjusted loss ratios above the 86% target for silver enrollees in the 87% and 94% CSR variants, and risk-adjusted loss ratios below 86% for individuals in non-CSR plans.<sup>11</sup>

Figure 2 simulates a scenario in which carriers react to the new risk adjustment program by loading all CSR ID risk into silver CSR premiums.

**FIGURE 2: LOADING ALL CSR ID RISK INTO SILVER CSR PREMIUMS, MODELS A AND B**

Pricing Scenario: CSRs not funded, Load CSR Risk on CSR Silvers\* / Load CSR ID Risk on CSR Silvers\*

Member Subtype		Simulated Claims and Premium			Simulated Risk Transfer Receivable/(Payment) and Net Loss Ratio, by Risk Adjustment Model					
					A Current ACA Model (CSR AV not modeled, Transfer CSR ID)			B CMS Proposal (Rate for CSR AV and ID)		
Metal/CSR	Morbidity	Net Claims PMPM	Premium PMPM	% Change from Current Policy	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)	Transfer PMPM	Loss Ratio after Transfer	Implied Favorability (for carrier)
Bronze	Average	\$339	\$395	-5%	(\$18)	91%	Slightly Unfavorable	\$0	86%	Even
Bronze	Low	\$85	\$395	-5%	(\$305)	99%	Moderately Unfavorable	(\$256)	86%	Even
Bronze	High	\$594	\$395	-5%	\$268	83%	Slightly Favorable	\$256	86%	Even
Silver 70%	Average	\$408	\$474	-5%	(\$22)	91%	Slightly Unfavorable	\$0	86%	Even
Silver 70%	Low	\$102	\$474	-5%	(\$366)	99%	Moderately Unfavorable	(\$307)	86%	Even
Silver 70%	High	\$714	\$474	-5%	\$322	83%	Slightly Favorable	\$307	86%	Even
Silver 87% CSR	Average	\$568	\$687	+38%	\$33	78%	Moderately Favorable	\$0	83%	Slightly Favorable
Silver 87% CSR	Low	\$142	\$687	+38%	(\$352)	72%	Moderately Favorable	(\$441)	85%	Slightly Favorable
Silver 87% CSR	High	\$994	\$687	+38%	\$418	84%	Slightly Favorable	\$441	80%	Moderately Favorable
Silver 94% CSR	Average	\$614	\$687	+38%	\$33	84%	Slightly Favorable	\$0	89%	Slightly Unfavorable
Silver 94% CSR	Low	\$153	\$687	+38%	(\$352)	74%	Moderately Favorable	(\$441)	87%	Slightly Unfavorable
Silver 94% CSR	High	\$1,074	\$687	+38%	\$418	95%	Moderately Unfavorable	\$441	92%	Moderately Unfavorable
Gold	Average	\$489	\$568	-5%	(\$26)	91%	Slightly Unfavorable	\$0	86%	Even
Gold	Low	\$122	\$568	-5%	(\$438)	99%	Moderately Unfavorable	(\$368)	86%	Even
Gold	High	\$855	\$568	-5%	\$386	83%	Slightly Favorable	\$368	86%	Even
<b>Total Market</b>		<b>\$484</b>	<b>\$562</b>	<b>+12%</b>	<b>\$0</b>	<b>86%</b>	<b>Even</b>	<b>\$0</b>	<b>86%</b>	<b>Even</b>

Standard Deviation of Simulated Loss Ratio (Measure of Selection Risk)

A	B
8%	2%

\* Note: While ACA rating rules do not permit carriers to charge different premiums for CSR versus non-CSR silver plans, carriers may be able to approximate such a differential pricing strategy by non-CSR silver plans at a lower rate off-marketplace, and applying the CSR load to all silver plans offered on-marketplace.

The results show an improvement in pricing and risk adjustment alignment under this strategy (as measured by the decrease in selection risk from 5% to 2%), but also a greater magnitude of change in market premiums. The remaining selection risk is concentrated within the silver tier and is attributable to differences in expected results between silver CSR variation levels (i.e., 87% versus 94%).

It is important to note that by encouraging carriers to load CSR ID risk into silver CSR premiums, the CMS proposal may actually limit consumers' exposure to increased premiums. This is because low-income individuals eligible for CSR variation plans are also eligible for premium assistance in the form of APTCs. Because APTCs increase in proportion to silver premiums in each state's marketplace, consumers eligible for these plans may not see a corresponding increase in their out-of-pocket contribution.

## Five approaches to CSR risk adjustment

The CMS proposal is not the only way that risk adjustment can be modified to address the elimination of CSR funding. Below, we consider five different model variations with respect to how ACA risk adjustment may address CSR AV and ID risk. Each approach makes a different choice for how to treat the two types of risk, among those discussed in the sidebar "How the ACA risk adjustment formula models and transfers risk."

### MODEL A

#### **CURRENT ACA MODEL: CSR AV RISK NOT MODELED, CSR ID RISK TRANSFERRED THROUGHOUT THE RISK POOL**

The current ACA risk adjustment model, Model A, is designed for a scenario in which CSR subsidies remain funded, and in which carriers spread the cost of additional CSR ID uniformly across premiums for all plan types, CSR and non-CSR. Furthermore, by transferring CSR ID risk throughout all plans in a market risk pool, this model incentivizes carriers to rate all plans for the average CSR ID load in the market regardless of their own anticipated levels of CSR enrollment. As demonstrated in Figure 1 from the section above, Model A is not well suited for a scenario in which CSR subsidies are not externally funded, and leads to an increased level of selection risk in the market regardless of what pricing strategy carriers follow.

### MODEL B

#### **CMS PROPOSAL OF AUGUST 10, 2017: CSR AV AND ID RISK CONCENTRATED IN CSR PLANS**

The August 10 CMS proposal, Model B, is implicitly aligned with a scenario in which CSR subsidies are not externally funded, in which carriers load premium rates for CSR variation plans<sup>12</sup> to reflect the full cost of both CSR AV and CSR ID risk and in which CSR ID risk is not reflected in premiums for other plan types (including off-marketplace silver plans and all other metallic levels), unlike under current ACA risk adjustment. Relative to current policy with respect to risk adjustment and CSR funding, this model incentivizes carriers to increase

premiums for silver CSR variations and decrease premiums for non-CSR plans. Both of these changes may benefit consumers as the APTC subsidy for low-income consumers would increase along with silver premiums, while non-subsidized consumers may benefit from cheaper bronze and gold plans (which could potentially become more affordable to non-subsidized enrollees than silver plans offered on-marketplace, despite having richer benefits). Among all the models we consider, Model B is the only model that does not transfer CSR ID risk across the market. Along with models A and C, under this model, carriers remain exposed to selection risk if they misestimate their particular silver CSR enrollment mix as seen in Figure 2 through the difference in favorability to carriers of 87% versus 94% silver CSR plans.

### MODEL C

#### **CSR AV RISK CONCENTRATED IN CSR PLANS, CSR ID RISK TRANSFERRED THROUGHOUT THE RISK POOL**

Model C represents a hybrid of Models A (current policy) and B (August 10 CMS proposal). It employs the same approach as the CMS proposal with respect to CSR AV risk (and thus likewise encourages carriers to load premium rates for CSR variation plans to reflect the full cost of CSR AV risk). Like models A and B, this model requires carriers to accurately estimate their own silver CSR enrollment mix or face selection risk. However, unlike Model B, Model C retains the current policy ACA risk adjustment (Model A) approach to CSR ID risk, transferring the risk throughout the market, and thus encouraging carriers to price the market average CSR ID load into the premiums for all plans.

### MODEL D

#### **CSR AV RISK CONCENTRATED IN BUT TRANSFERRED AMONG CSR PLANS, CSR ID RISK TRANSFERRED THROUGHOUT THE RISK POOL**

Model D represents a variation of Model C that transfers CSR AV risk among all CSR variation plans in a market (or alternatively, all on-marketplace silver plans). This model encourages the same pricing strategy as Model C, but limits the selection risk that carriers face with respect to their particular mixes of CSR variation plans (that is, the proportion of enrollment in silver 87% versus 94% variations).<sup>13</sup> Along with model E, this model requires each carrier to consider the mix of silver CSR enrollment in the wider marketplace as opposed to its enrollee mix alone.

### MODEL E

#### **CSR AV AND ID RISK TRANSFERRED THROUGHOUT THE RISK POOL**

Model E is a variation on the current risk adjustment model (Model A), in which the Model A approach of transferring CSR ID risk throughout the market risk pool is extended to include CSR AV risk. As was the case with Model A and CSR ID risk, Model E incentivizes carriers to rate all plans (CSR and non-CSR) consistent with the average level of both CSR AV and CSR ID risk across a market.

In Figure 3, we plot the five different model variations along axes representing the different risk treatment options for each of CSR AV (vertical axis) and CSR ID (horizontal axis) risk.

## Each risk adjustment model aligns best with a different CSR funding and pricing strategy

Using the market simulation model introduced above, we are able to demonstrate how selection risk within a marketplace varies among the five different risk adjustment models under consideration, for five different scenarios with respect to CSR funding status and pricing strategy (see Figure 4).

**FIGURE 3: RISK TREATMENT OPTIONS**

		CSR Induced Demand (ID) Risk				
		Not Modeled	Modeled by the risk adjustment program			
		Not Transferred	Not Transferred	Transferred within Silver CSR Variants Only	Transferred over all plans	
CSR Funding (AV) Risk	Not Modeled	Not Transferred	*	*	*	Model A (Current ACA Model)
	Modeled by the risk adjustment program	Not Transferred	*	Model B (8/10/17 CMS Proposal)	*	Model C
		Transferred within Silver CSR Variants Only	*	*	*	Model D
		Transferred over all plans	*	*	*	Model E

\* Although all model options in this table are feasible, options denoted with an asterisk are not considered within this paper.

**FIGURE 4: MARKET SIMULATIONS**

Standard Deviation of Simulated Loss Ratio (Measure of Selection Risk), By CSR Funding and Pricing Scenario						
Pricing Scenario	A	B	C	D	E	Best-Fit Risk Adjustment Model
	Current ACA Model (CSR AV not modeled, Transfer CSR (ID))	CMS Proposal (Rate for CSR AV and ID)	Rate for CSR AV, Transfer CSR ID	Hybrid (Rate/Transfer for CSR AV, Transfer CSR (ID))	Transfer CSR AV, Transfer CSR ID	
0. (Current Policy): CSRs remain funded Spread CSR ID Risk uniformly	0%	8%	7%	8%	13%	A
I. CSRs Unfunded, Spread CSR AV Risk uniformly Spread CSR ID Risk uniformly	13%	16%	11%	11%	0%	E
II: CSRs Unfunded, Load CSR AV Risk on all Silvers Spread CSR ID Risk uniformly	11%	12%	8%	8%	8%	D
III: CSRs Unfunded, Load CSR AV Risk on CSR Silvers* Spread CSR ID Risk uniformly	7%	5%	3%	0%	11%	D
IV: CSRs Unfunded, Load CSR AV Risk on all Silvers Load CSR ID Risk on all Silvers	11%	11%	9%	8%	11%	D
V: CSRs Unfunded, Load CSR AV Risk on CSR Silvers* Load CSR ID Risk on CSR Silvers*	8%	2%	5%	5%	15%	B

\* Note: While ACA rating rules do not permit carriers to charge different premiums for CSR versus non-CSR silver plans, carriers may be able to approximate such a differential pricing strategy by offering non-CSR silver plans at a lower rate off-marketplace, and applying the CSR load to all silver plans offered on-marketplace.

The combinations of pricing strategy and risk adjustment model where selection risk equals 0% imply a perfect match between risk adjustment and pricing strategy, such that for the purpose of our simulation selection risk is all but eliminated. Note that although this is the case in our hypothetical market simulation, in a real marketplace, risk adjustment will never be perfectly correlated with claim costs, and will therefore never perfectly spread risk (or otherwise eliminate selection risk) entirely. In particular, the U.S. Department of Health and Human Services (HHS) risk adjustment model is far from perfectly correlated with claim costs (e.g., deliberate accuracy concessions were made in order to mitigate incentives for carriers to “game” the coding of diagnoses to their own benefit). However, even an imperfect risk adjustment program can mitigate selection risk and limit carriers’ incentives to enroll specific subsets of enrollees.

Using this same simulation, we are also able to model the premium impact of each of these CSR funding and pricing strategy scenarios on premiums by plan type (see Figure 5).<sup>14</sup>

Although the exact magnitudes of the premium impacts above are dependent on the details and assumptions underlying our market simulation, we expect the general directional conclusions to hold in practice:

1. Of all the models considered, the August 10 CMS risk adjustment proposal (Model B) encourages the greatest short-term volatility in market premiums before APTCs (i.e., gross premiums), as measured by the spread between the maximum and minimum rate change. According to our hypothetical market simulation, when paired with the defunding of CSR subsidy payments, it results in significant increases to silver marketplace plan gross premiums, and decreases in non-silver and off-marketplace silver plan premiums on the order of 5%

(Pricing Scenario V in Figure 5). Because the APTC subsidy is directly tied to marketplace silver premiums, this proposal may have a beneficial impact for most consumers on a net premium basis (i.e., out-of-pocket premiums or premiums after application of APTC subsidies).

2. Of all the models considered, Model E encourages the smallest degree of variation with respect to gross premium changes by plan. By transferring CSR AV risk throughout the market, it fits best with a pricing strategy where all plans receive a uniform rate increase based on the market average cost of CSR defunding (12% according to our simulation, under Pricing Scenario I in Figure 5).

We note this above, but an important consequence of these differences is the potential impact on APTC funding in ACA marketplaces, and therefore the cost to the federal government. By supporting the largest increase in silver premiums of the five options under consideration, the CMS proposal (Model B) may indirectly support a substantial increase in external funding through APTCs. This could result in higher federal government outlays, but may also minimize net costs for consumers purchasing non-silver plans and possibly increase transfer payments from the federal government to state governments implementing Section 1332 programs. Conversely, by supporting the least increase in silver premiums (among scenarios in which CSR subsidies are eliminated), Model E may indirectly limit the level of APTC funding.

We note that Milliman does not advocate any one of these risk adjustment methods over the others and that there may be benefits to each approach (including the general benefit of a reduced level of uncertainty to carriers responsible for pricing these plans). These are public policy and carrier strategy issues.

**FIGURE 5: PREMIUM IMPACTS FOR SIMULATED MARKET BY CSR FUNDING AND PRICING SCENARIO**

Pricing Scenario	% Change in Simulated Premium (vs Current Policy)				Best-Fit Risk Adjustment Model
	Total Market	Non-Silver	Silver-non-CSR	Silver-CSR (87%+)	
0. (Current Policy): CSRs remain funded Spread CSR ID Risk uniformly	n/a	n/a	n/a	n/a	A
I. CSRs Unfunded, Spread CSR AV Risk uniformly Spread CSR ID Risk uniformly	+12%	+12%	+12%	+12%	E
II: CSRs Unfunded, Load CSR AV Risk on all Silvers Spread CSR ID Risk uniformly	+12%	+1%	+20%	+20%	D
III: CSRs Unfunded, Load CSR AV Risk on CSR Silvers* Spread CSR ID Risk uniformly	+12%	+1%	+1%	+30%	D
IV: CSRs Unfunded, Load CSR AV Risk on all Silvers Load CSR ID Risk on all Silvers	+12%	-5%	+24%	+24%	D
V: CSRs Unfunded, Load CSR AV Risk on CSR Silvers* Load CSR ID Risk on CSR Silvers*	+12%	-5%	-5%	+38%	B

\* Note: While ACA rating rules do not permit carriers to charge different premiums for CSR versus non-CSR silver plans, carriers may be able to approximate such a differential pricing strategy by offering non-CSR silver plans at a lower rate off-marketplace, and applying the CSR load to all silver plans offered on-marketplace.

It is also important to note that our simulation is necessarily a simplified version of an ACA marketplace, and although we expect most of its conclusions to reflect directional reality in actual marketplaces, the magnitudes thereof will vary. The impact of these changes to a specific carrier is highly dependent on the carrier's distribution of CSR and metallic plans as well as on the resulting mix for the entire state in which the carrier operates, along with its competitors' approaches to rating for these CSR changes. When possible, actual and anticipated carrier and state data are best for determining estimates of the impact of these changes.

## Practical considerations and limitations

Although the results above support the use of risk adjustment in combination with tailored carrier pricing strategies to limit the degree of selection risk carriers may face in ACA marketplaces in the absence of CSR subsidy funding, there are also a number of practical considerations and limitations to keep in mind:

### 1. RISK ADJUSTMENT AND ACTUAL RISK ARE IMPERFECTLY CORRELATED

No risk adjustment transfer formula will ever perfectly compensate carriers for their risks relative to the overall risk pool, for many reasons, including (but not limited to):

- Limitations of the risk adjuster model and the calibration of its coefficients
- Variation in provider coding practices
- Differences in unit costs among carriers in a marketplace
- Varying incidence of accidents among carriers
- Variation in severity for a given condition
- Variation in treatment patterns and need for services from year to year
- Statistical fluctuation

When developing its risk adjustment model, HHS made deliberate concessions to predictability in order to insulate against manipulation. For instance, although there are true differences in cost levels between mild and severe diabetics, HHS made those condition coefficients identical, removing the incentive to code borderline cases with the more severe marker.

A risk adjustment program can at best hope to reduce the overall degree of selection risk among carriers in a marketplace, but can never entirely eliminate it.

### 2. THE TIMELINE FOR REGULATORY CHANGE AND STATE/ INSURANCE CARRIER RESPONSE IS COMPRESSED

Federal regulatory changes typically require a draft proposal and comment period prior to becoming final. Typically, the draft rule for ACA risk adjustment is released more than a full year before the effective date of coverage in the Notice of Benefit and Payment Parameters for the benefit year.

Furthermore, if any change were to be made to risk adjustment to address CSR subsidy funding, states would require time to align existing guidance to carriers on the subject of CSR funding with the revised risk adjustment program, and carriers would require time to consider and incorporate any such guidance and risk adjustment changes into their rate development, while states would remain on a tight timeline to review and approve rate filings prior to open enrollment.

For this reason, despite a recent extension of the rate filing deadline, it would be difficult for regulators or carriers to change course on risk adjustment models and pricing strategies in time for the 2018 benefit year.

In the absence of federal action, states could also consider implementing some sort of snap-on program that builds on top of the federal risk adjustment program and enforces marginal transfers among carriers based on their relative levels of exposure to the CSR funding shortfall. However, any such program would entail the same limitations as a federal solution, while introducing additional operational complications and variation across states.

### 3. RISK ADJUSTMENT CHANGES CREATE WINNERS AND LOSERS

By transferring dollars among insurance carriers within a market, any risk adjustment program change will create "winners" and "losers." For example, in the case of the alternate Model E discussed in this paper, carriers with a lower-than-average proportion of CSR enrollees (such as carriers that only offer coverage off-exchange) would be the clear losers. These carriers may have an incentive to fight against any such change.

Spreading CSR-variation AV risk across the overall market (by way of risk adjustment) also means that carriers would have to properly project the proportion of CSR variation enrollees in the entire market and not just within their own blocks of business.

### 4. RISK ADJUSTMENT IS (MOSTLY) REVENUE-NEUTRAL WITHIN A MARKETPLACE

Risk adjustment under the ACA only shifts dollars within a marketplace,<sup>15</sup> but does nothing to directly limit the overall cost of coverage across an entire state risk pool. For example, for a carrier with 100% market share, risk adjustment is effectively meaningless. At best, risk adjustment can motivate insurance carriers to rate to the overall risk level of the single risk pool as opposed to their projected slices of the market, but it cannot directly reduce the overall anticipated claim cost of the risk pool.

### 5. OTHER LEGISLATIVE AND REGULATORY CHANGES TO HEALTH REFORM COULD COMPLICATE THE PICTURE FURTHER

Risk adjustment works best when all carriers' plans are identical in nature and becomes more difficult to administer when plans differ. Recent developments with respect to Section 1332 waivers as well as potential congressional ACA "repeal and replace" efforts could lead to dramatic variations within and among states with respect to the types and benefit richness of marketplace

plans and the structure of ACA markets altogether. Any such change could require significant revisions to risk adjustment and could bring with it new operational difficulties, such as avoiding double-compensating carriers for risk in the case of reinsurance or transferring risk among carriers if they are not all required to offer the same essential health benefits package.

**FOR MORE ON MILLIMAN'S HEALTHCARE REFORM PERSPECTIVE:**

Visit our reform library at [milliman.com/hcr](http://milliman.com/hcr)

Visit our blog at [healthcaretownhall.com](http://healthcaretownhall.com)

Follow us at [twitter.com/millimanhealth](https://twitter.com/millimanhealth)

**CONTACT**

Jeffrey G. Milton-Hall  
[jeff.milton-hall@milliman.com](mailto:jeff.milton-hall@milliman.com)

Doug Norris  
[doug.norris@milliman.com](mailto:doug.norris@milliman.com)

Jason Karcher  
[jason.karcher@milliman.com](mailto:jason.karcher@milliman.com)

**FOOTNOTES**

- 1 CBO (August 15, 2017). The Effects of Terminating Payments for Cost-Sharing Reductions. Retrieved August 17, 2017, from <https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53009-costsharingreductions.pdf>.
- 2 CMS (August 10, 2017). Information on Risk Adjustment Methodology and Rate Filing Deadlines. Retrieved August 14, 2017, from <https://www.documentcloud.org/documents/3923208-CMS-Rate-Filing-Deadlines.html>.
- 3 The level of funding for APTCs is a function of silver premiums in each state's individual ACA marketplace.
- 4 This topic has been discussed at length by many papers, including this white paper by Pedro Alcocer, Fritz Busch, and Jason Karcher, available at <http://www.milliman.com/uploadedFiles/insight/2017/ACA-CSR-payment-likely-fates.pdf>.
- 5 "Actuarial Value" refers to the relative richness of a consumer's health insurance benefits. Specifically, in this context, it refers to the proportion of total medical claim costs borne by the insurer as opposed to the beneficiary or another party (such as the federal government, in the case of CSR subsidies).
- 6 CMS, *ibid*.
- 7 This formula is applied at the state and market level, and is fundamentally revenue-neutral at the state and market level as a result, with one exception: the 2018 Notice of Benefit and Payment Parameters introduced a new high claim cost pooling mechanism, which will pool a portion of costs for individuals with claims in excess of \$1 million across state lines, with one pool for individual and merged markets and a separate pool for the small group market.
- 8 As long as ACA marketplaces have existed, CSR variation plans have been a source of ID risk. This is the risk stemming from the well-documented economic phenomenon whereby the lower the portion of healthcare costs that individuals shoulder, the more services they tend to use. In the case of CSR plan variations, induced demand implies that—all else equal—an individual in a rich CSR plan variation will tend to have higher claims than one in a standard silver plan, even after controlling for AV differences. Because ACA rating rules prohibit premium differences between CSR variations and the corresponding base plan design, the ACA has historically used risk adjustment to transfer this risk across all plans (CSR and non-CSR, on- and off-marketplace) in each market.
- 9 While ACA rating rules do not permit carriers to charge different premiums for CSR versus non-CSR silver plans, the effect may be close to the same if carriers rate non-CSR silver plans at a lower rate off-marketplace and apply the CSR load to all silver plans offered on-marketplace. While this approach is imperfect (e.g., carriers are still exposed to risk with respect to the mix between 87% and 94% CSR variations), some states, such as California, have encouraged this approach.
- 10 The 1% premium change on non-CSR plans is attributable to an increase in CSR ID risk (which in this scenario is spread across all plans in the marketplace). That is due to the increased effective AV of CSR plans when CSR subsidies are eliminated.
- 11 From a carrier's perspective, lower loss ratios are generally considered more favorable.
- 12 As noted previously, carriers cannot directly apply a different premium load to CSR variation plans than to their standard non-CSR counterparts, but such an approach can be approximated to some extent by applying the CSR load to premiums for on-marketplace silver plans only.
- 13 This can be achieved by adjusting the AV implicit in risk scores on the left side of the risk transfer formula to reflect the AV of the specific variation (e.g., by multiplying platinum risk scores by a factor of 0.87 / 0.90 for the 87% variation), while leaving the metallic AV on the right side of the formula constant at the platinum level (0.90).
- 14 Note that, for all scenarios, the simulated overall market premium level change reflects only the loss of CSR funding. Our model assumes no changes in the composition of the risk pool and no additional risk margin added to premium rates in response to uncertainty. In practice, both of these considerations may drive additional premium changes in ACA markets.
- 15 There is one exception to revenue neutrality at the state level: the 2018 Notice of Benefit and Payment Parameters introduced a new high claim cost pooling mechanism, which will pool a portion of costs for individuals with claims in excess of \$1 million across state lines, with one pool for individual and merged markets and a separate pool for the small group market.